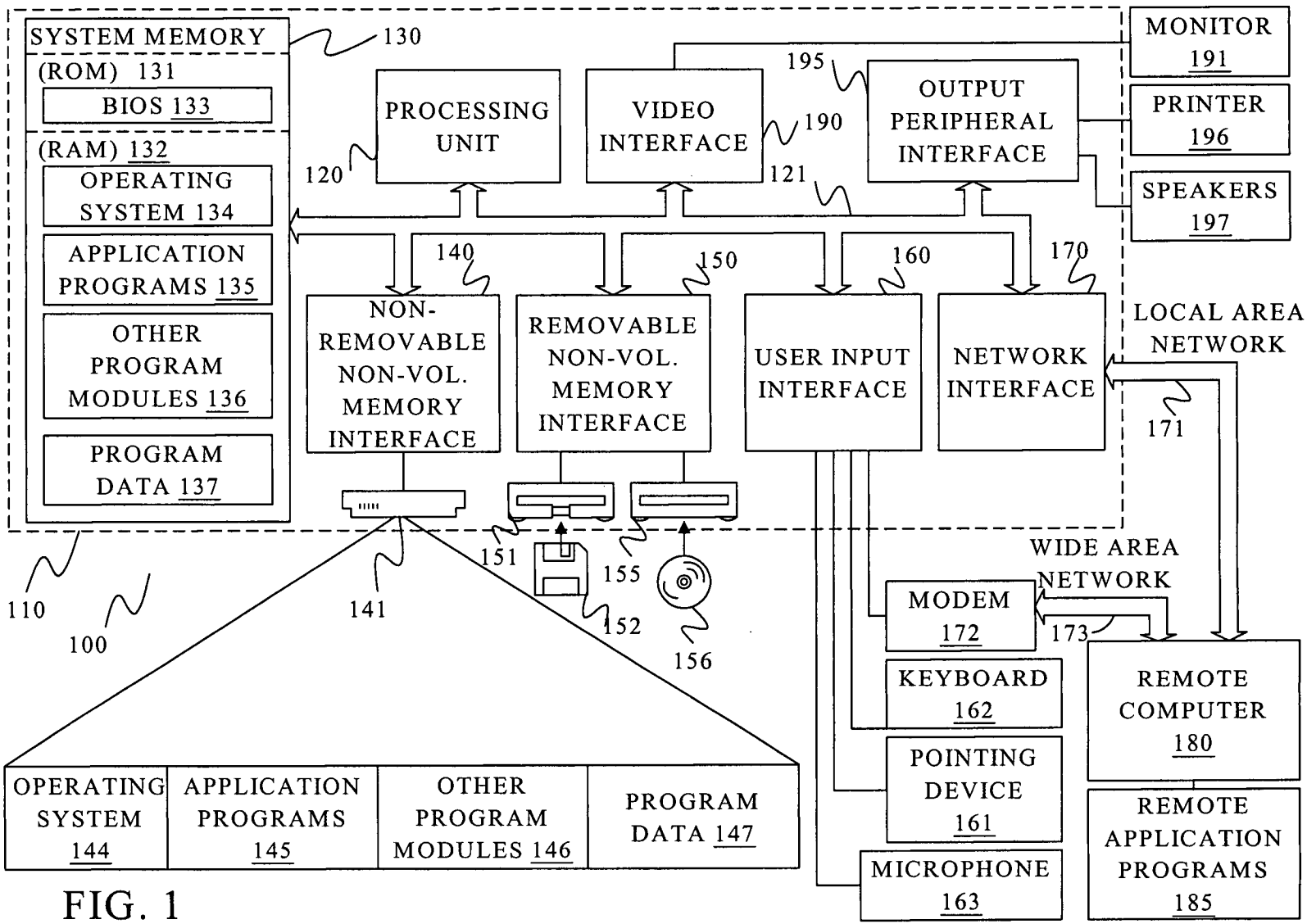
SYSTEM MEMORY
130
(ROM) 131
BIOS 133
(RAM) 132
OPERATING SYSTEM 134
APPLICATION PROGRAMS 135
OTHER PROGRAM MODULES 136
PROGRAM DATA 137
PROCESSING UNIT
120
VIDEO INTERFACE
190
195
OUTPUT PERIPHERAL INTERFACE
121
MONITOR 191
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170
NON-REMOVABLE NON-VOL. MEMORY INTERFACE
REMOVABLE NON-VOL. MEMORY INTERFACE
USER INPUT INTERFACE
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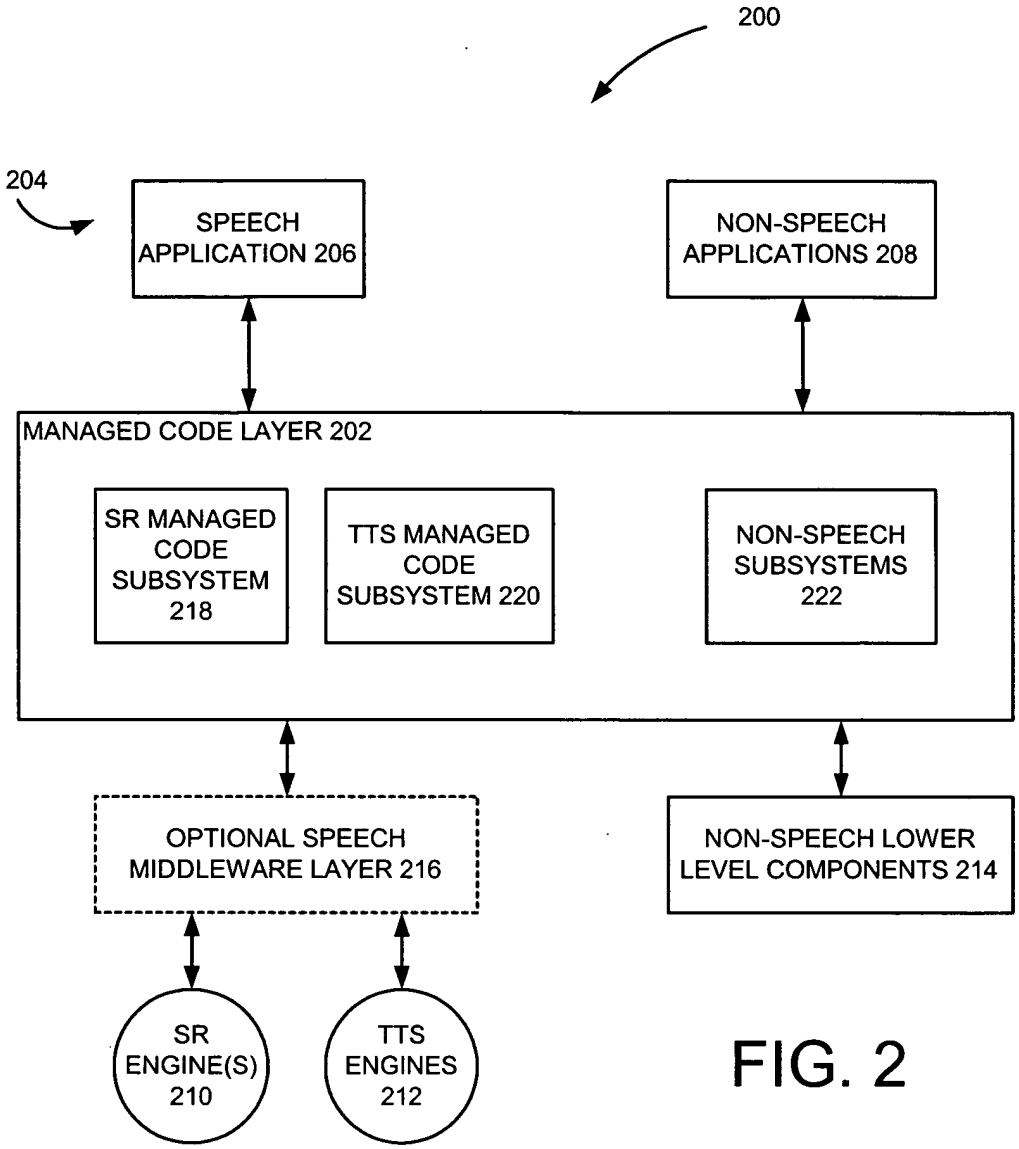
REMOTE APPLICATION PROGRAMS 185
OPERATING SYSTEM 144
APPLICATION PROGRAMS 145
OTHER PROGRAM MODULES 146
PROGRAM DATA 147

FIG. 1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204
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NON-SPEECH APPLICATIONS 208
MANAGED CODE LAYER 202
SR MANAGED CODE SUBSYSTEM 218
TTS MANAGED CODE SUBSYSTEM 220
NON-SPEECH SUBSYSTEMS 222
OPTIONAL SPEECH MIDDLEWARE LAYER 216
NON-SPEECH LOWER LEVEL COMPONENTS 214
SR ENGINE(S) 210
TTS ENGINES 212

FIG. 2

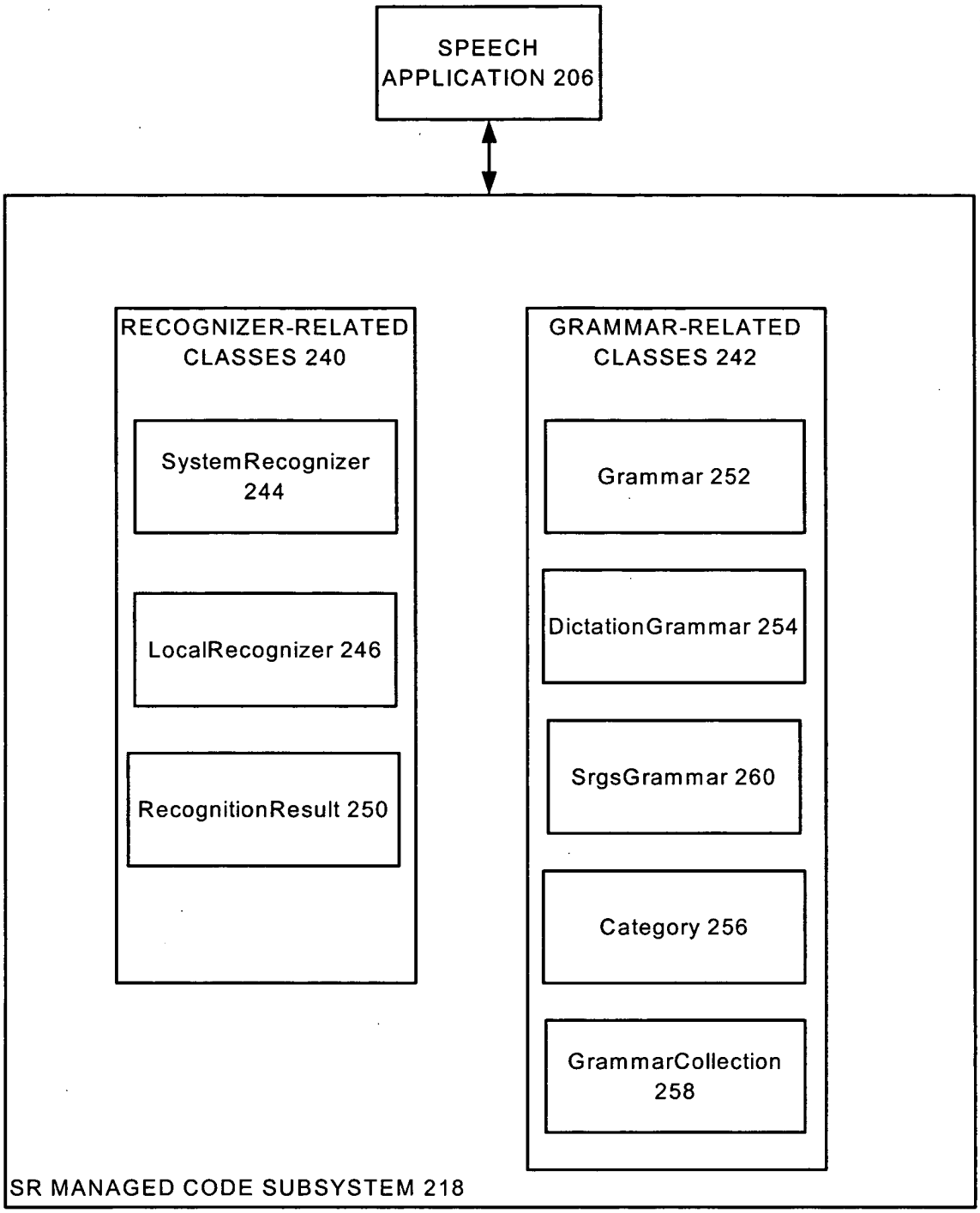

SPEECH APPLICATION 206
RECOGNIZER-RELATED CLASSES 240
SystemRecognizer 244
LocalRecognizer 246
RecognitionResult 250
GRAMMAR-RELATED CLASSES 242
Grammar 252
DictationGrammar 254
SrgsGrammar 260
Category 256
GrammarCollection 258
SR MANAGED CODE SUBSYSTEM 218

FIG. 3

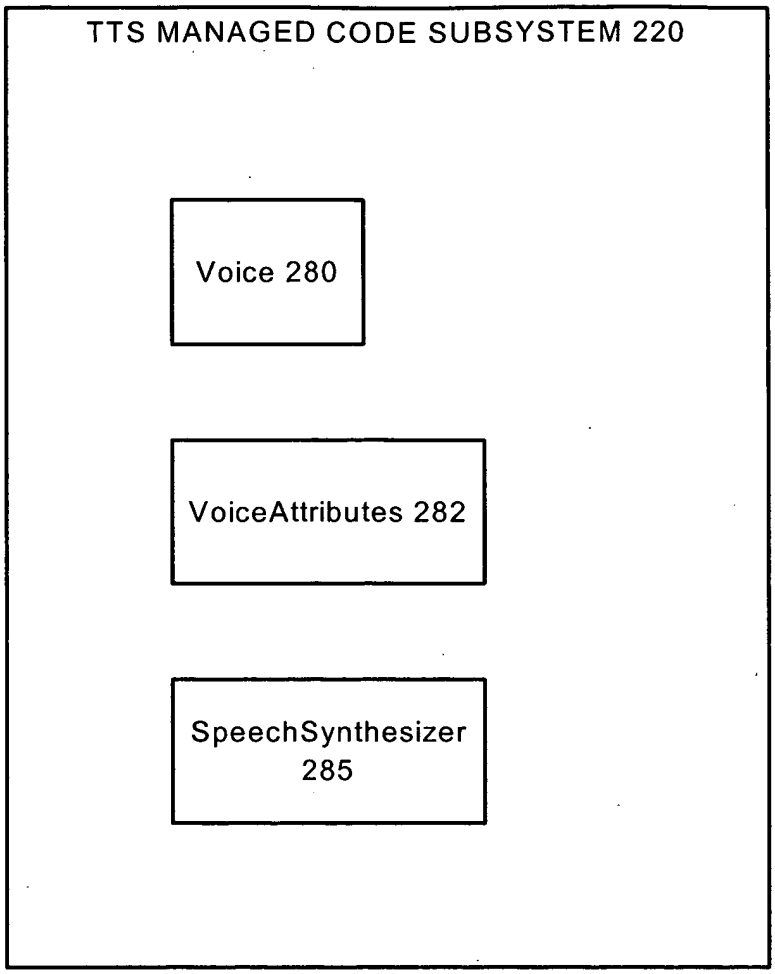
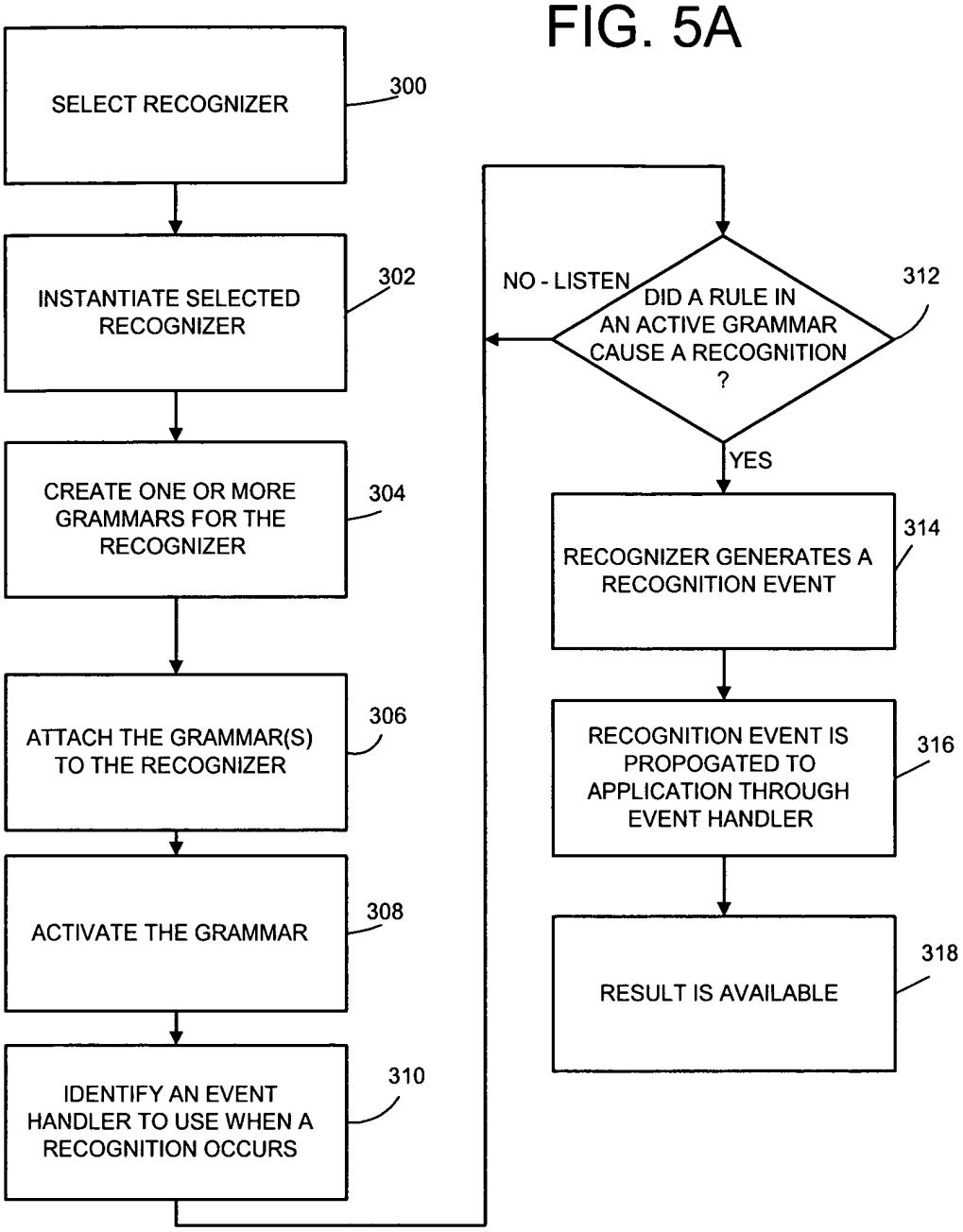

TTS MANAGED CODE SUBSYSTEM 220
Voice 280
VoiceAttributes 282
SpeechSynthesizer 285

FIG. 4

FIG. 5A


SELECT RECOGNIZER
300
INSTANTIATE SELECTED RECOGNIZER
302
CREATE ONE OR MORE GRAMMARS FOR THE RECOGNIZER
304
ATTACH THE GRAMMAR(S) TO THE RECOGNIZER
306
ACTIVATE THE GRAMMAR
308
IDENTIFY AN EVENT HANDLER TO USE WHEN A RECOGNITION OCCURS
310
NO - LISTEN
DID A RULE IN AN ACTIVE GRAMMAR CAUSE A RECOGNITION ?
312
YES
RECOGNIZER GENERATES A RECOGNITION EVENT
314
RECOGNITION EVENT IS PROPOGATED TO APPLICATION THROUGH EVENT HANDLER
316
RESULT IS AVAILABLE
318

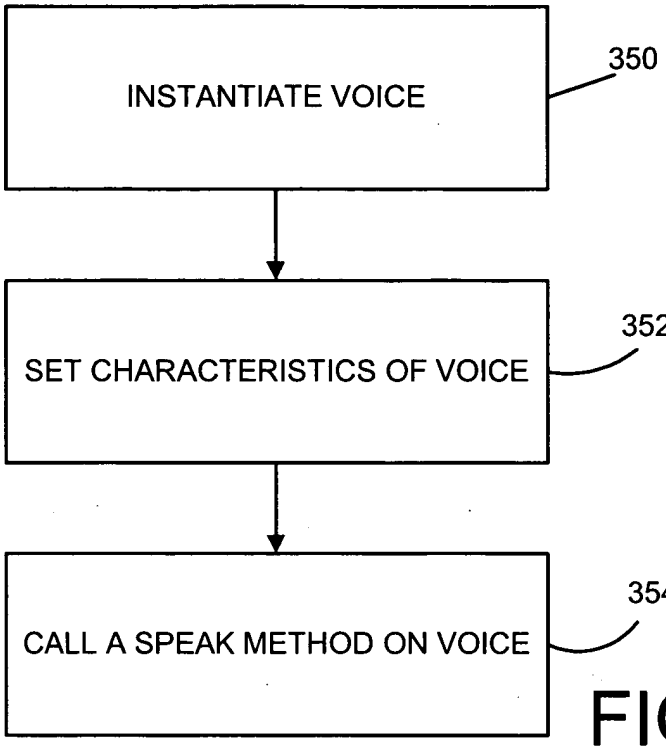

INSTANTIATE VOICE
350
SET CHARACTERISTICS OF VOICE
352
CALL A SPEAK METHOD ON VOICE
354

FIG. 5B

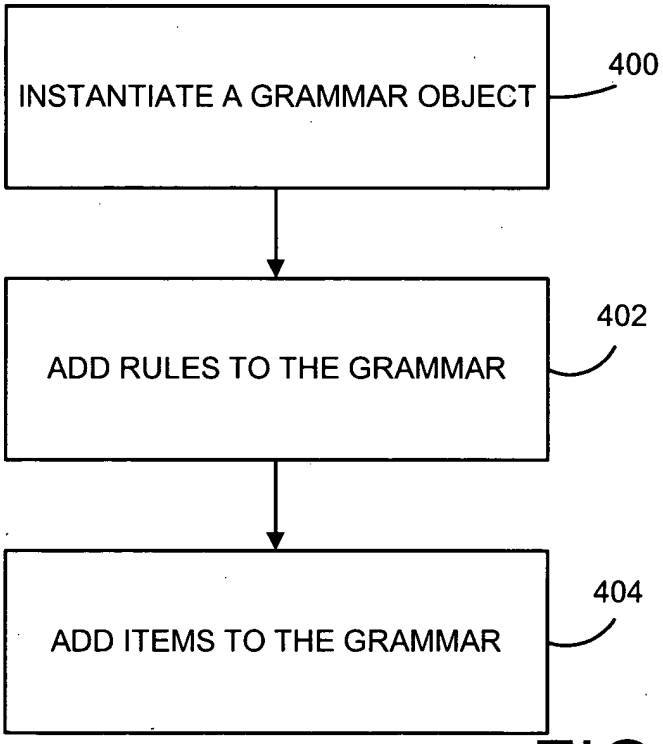

INSTANTIATE A GRAMMAR OBJECT
400
ADD RULES TO THE GRAMMAR
402
ADD ITEMS TO THE GRAMMAR
404

FIG. 6

```
<grammar xml:long="en" version=1.0 xmins="http://www.w3.org/
        2001/06/grammar" root="PlayBy Artist">
    <rule id="PlayByArtist">
      Play
        <one-of>
            <item> Band ABC </Item>
            <item> Band XYZ </item>
        </one-of>
    </rule>
</grammar>
```

Fig. 7

```
SrgsGrammar g= new SrgsGrammar;

SrgsRule r = g.Rules.AddRule ("PlayByArtist");

r.Elements.Add ("Play");

OneOf oo = r.Elements.AddOneOf ("Band ABC", "Band XYZ");

g.Root = r;

g.Recognition += new RecognitionEventHandler (Method-Name);

g.IsActive = true
```

FIG. 8

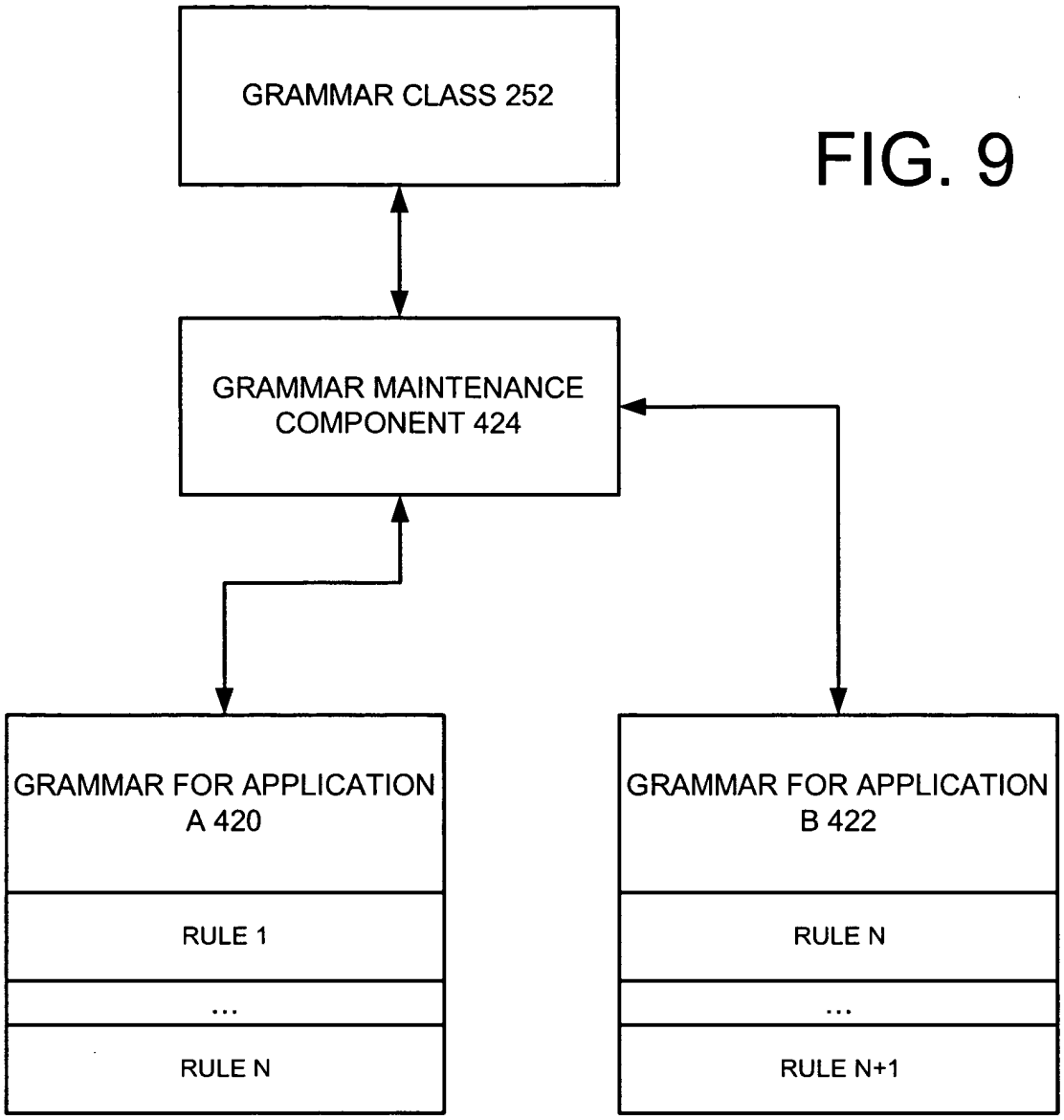

GRAMMAR CLASS 252
GRAMMAR MAINTENANCE COMPONENT 424
GRAMMAR FOR APPLICATION A 420
RULE 1
...
RULE N
GRAMMAR FOR APPLICATION B 422
RULE N
...
RULE N+1

FIG. 9

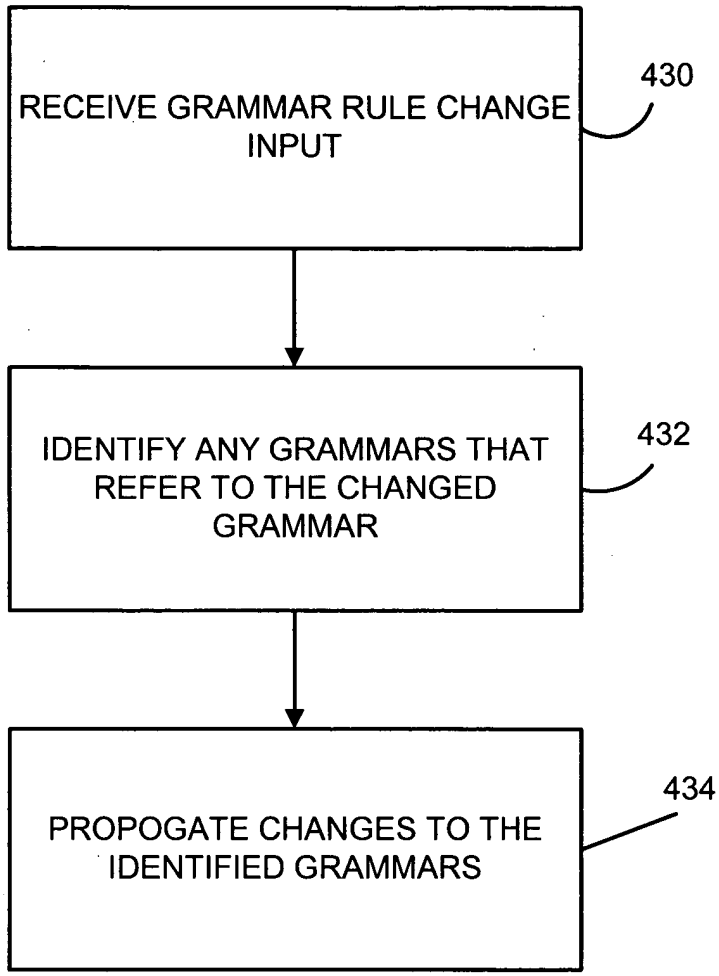

RECEIVE GRAMMAR RULE CHANGE INPUT
430
IDENTIFY ANY GRAMMARS THAT REFER TO THE CHANGED GRAMMAR
432
PROPOGATE CHANGES TO THE IDENTIFIED GRAMMARS
434

FIG. 10